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Education:

1992 Ph.D. Atmospheric Sciences, Oregon State University
Dissertation title: *Modeling of Forced Planetary Waves in the Mars Atmosphere*

1984 B.S. Meteorology and B. A. Physics, San Jose State University

Professional Experience:

2007-present Space Scientist, NASA Ames Research Center
1994-2007 Research Scientist, San Jose State University Foundation/NASA Ames Research Center
2000 Guest Investigator/Lecturer
Geophysical Fluid Dynamics Summer Program
Woods Hole Oceanographic Institution
1997-2000 Lecturer, Dept. of Meteorology, San Jose State University
1992-1994 NRC Research Associate, NASA Ames Research Center

Research Background: Dynamical meteorology and planetary atmospheres

Honors and Awards:

NASA Group Achievement Award, Mars Global Surveyor Solar Array Anomaly Recovery and Aerobraking Team, May 1999
Resident Research Associateship, National Research Council, 1992-1994
Fellowship, NASA Graduate Student Researchers Program, 1987-1990
Graduate Student Research Poster Competition, Sigma Xi, Oregon State University, 1989
Honorable Mention, Father James B. Macelwane Annual Award, American Meteorological Society, 1985
Albert and Rosa Miller Award in Meteorology, San Jose State University, 1984

Professional Society Memberships:

Division for Planetary Sciences, American Astronomical Society
American Geophysical Union
European Geophysical Union
American Meteorological Society
Associate Fellow Royal Meteorological Society

Research Activities:

PI: *General Circulation Model Simulations of the Martian Atmosphere: Coupling the Dust, Water and CO₂ Cycles, and Implications for Interannual Variability* (NASA Planetary Atmospheres Program, NRA NNN07ZDA001N-PATM)

PI: *Large-Scale Extratropical Waves and Instabilities in Mars' Atmosphere: MGS Data Analysis and Dynamical Modeling* (NASA Mars Data Analysis Program, NRA NNH04ZSS001N-MDAP)

PI: *Surface and Middle Atmospheric Data Analysis and Climate Modeling of Mars* (NASA Mars Data Analysis Program 1999-2001, NRA 98-OSS-06)

Co-I: *Mars General Circulation Model Simulations: Impact of Aerosols on the Climate System* (NASA Planetary Atmosphere Program, NRA NNH04ZSS001N-PATM)

Co-I: *General Circulation Modeling of the Venus Atmosphere* (NASA Planetary Atmosphere Program, NRA NNH06ZDA001N-PATM)

Co-I: *Simulations of the General Circulation and Climate of Mars* (NASA Planetary Atmosphere Program, NRA 01-OSS-01-PATM)

Co-I: *Linking Our Origins to Our Future* (NASA Astrobiology Institute, Ames Research Center, CAN 02-OSS-02)

Co-I: *Venus Global Circulation Modeling* (California Space Institute (CalSpace), 2005-2006)

Organizer: *Mars General Circulation Model-Mars Global Surveyor Data Workshop*, Coincident with the DPS/AAS XXXIII Annual Meeting, St. Charles-B Conference, Hyatt Regency Hotel, New Orleans, Louisiana, 1 December 2001

Member, Atmospheric Advisory Group (AAG) for aerobraking operations of the *Mars Global Surveyor* spacecraft at Mars (September 1997–March 1998)

Co-Organizer: *Mars General Circulation Model Intercomparison Workshop*, Department of Atmospheric, Oceanic and Planetary Physics, Clarendon Laboratory, University of Oxford, Oxford, United Kingdom, 22–24 July 1996

Scientific Panels and Journal Reviews:

Mars Surveyor '98 Mission Participating Scientist Program (1999); Mars '05 Reconnaissance Orbiter Mission Review (2001)

NASA Planetary Atmospheres Program (2002, 2003; 2008); NASA Mars Data Analysis Program (2003)

NASA Mars Fundamental Research Program (2004)

Journal of Geophysical Research; Nature; Geophysical Research Letters; Science; Icarus; Planetary and Space Science

Publications:

- Hollingsworth, J.L.**, and M.A. Kahre, 2010: Extratropical cyclones, frontal waves and Mars dust: Modeling and considerations. (submitted and in revision, *Geophys. Res. Lett.*)
- Kahre, M.A., **J. Hollingsworth**, R.M. Haberle, and J.R. Murphy, 2008: Investigations of the variability of dust particle sizes in the Martian atmosphere using the NASA Ames General Circulation Model. *Icarus*, **195** (2), 576–597.
- Hollingsworth, J.L.**, M.A. Kahre, and R.M. Haberle, 2008: Mars' southern hemisphere: Influences of the great impact basins on extratropical weather and the water cycle. *Third International Workshop on the Mars Atmosphere*:

Modeling and Observations, Williamsburg, VA, 10–13 November
(<http://www.lpi.usra.edu/meetings/modeling2008/pdf/9117.pdf>).

- Hollingsworth, J.L.**, A.J. Brown, R.M. Haberle, M.A. Kahre, F. Montmessin, and J. Schaeffer, 2008: Modeling Mars' water cycle: East-west asymmetries in southern high-latitude condensation processes. *Mars Water Cycle Workshop*, Paris, France, 21–23 April (http://www.aero.jussieu.fr/info-pratique/seminaire/MarsWC-Site/Progtues2_files/Hollingsworth-MWCW.pdf).
- Hollingsworth, J.L.**, R.E. Young, G. Schubert, C. Covey, and A.S. Grossman, 2007: A simple-physics global circulation model for Venus: Sensitivity assessments of atmospheric superrotation, *Geophys. Res. Lett.*, **34**, L05202, doi:10.1029/2006GL028567.
- Hollingsworth, J.L.**, 2003: Cyclogenesis and frontal waves on Mars. *Mars Atmosphere Modelling and Observations Workshop*, Granada, Spain, 13–15 January (<http://www-mars.lmd.jussieu.fr/granada2003/abstract/hollingsworth.pdf>).
- Tarter, J.C., P.R. Backus, R.L. Mancinelli, J.M. Aurnou, D.E. Backman, G.S. Basri, A.P. Boss, A. Clarke, D. Deming, L.R. Doyle, E.D. Feigelson, F. Freund, D.H. Grinspoon, R.M. Haberle, S.A. Hauck II, M.J. Heath, T.J. Henry, **J.L. Hollingsworth**, M.M. Joshi, S. Kilstom, M.C. Liu, E. Meikle, I.N. Reid, L.J. Rothschild, J. Scalo, A. Segura, C.M. Tang, J.M. Tiedje, M.C. Turnbull, L.M. Walkowicz, A.L. Weber, and R.E. Young, 2007: A Reappraisal of The Habitability of Planets around M Dwarf Stars. *Astrobiology*, **7**, 30–65.
- Colaprete, A., J.R. Barnes, R.M. Haberle, **J.L. Hollingsworth**, H.H. Kieffer, T.N. Titus, 2005: Albedo of the south pole on Mars determined by topographic forcing of atmosphere dynamics. *Nature*, **435**, 184–188.
- Forbes, J.M., A.F.C. Bridger, S.W. Bougher, M.E. Hagan, **J.L. Hollingsworth**, G.M. Keating, and J. Murphy, 2003: Nonmigrating tides in the thermosphere of Mars. *J. Geophys. Res.*, **107**, 5113, doi: 10.1029/2001JE001582.
- Hollingsworth, J.L.**, 2003: Cyclogenesis and frontal waves on Mars. *Mars Atmosphere Modelling and Observations Workshop*, Granada, Spain, 13–15 January (<http://www-mars.lmd.jussieu.fr/granada2003/abstract/hollingsworth.pdf>).
- Hinson, D.P., G.L. Tyler, **J.L. Hollingsworth**, and R.J. Wilson, 2001: Radio occultation measurements of forced atmospheric waves on Mars. *J. Geophys. Res.*, **106**, 1463–1485.
- Joshi, M.M., **J.L. Hollingsworth**, R.M. Haberle, and A.F.C. Bridger, 2000: An interpretation of Martian thermospheric waves based on analysis of a general circulation model, *Geophys. Res. Lett.*, **27**, 613–616.
- James, P.B., **J.L. Hollingsworth**, M.J. Wolff, and S.W. Lee, 1999: North polar dust storms in early spring on Mars. *Icarus*, **138**, 64–73.
- Keating, G.M., ..., **J.L. Hollingsworth**, et al., 1998: The structure of the upper atmosphere of Mars: In situ accelerometer measurements from Mars Global Surveyor, *Science*, **279**, 1672–1676.
- Hollingsworth, J.L.**, R. M. Haberle, and J. Schaeffer, 1997: Seasonal variations of storm zones on Mars, *Adv. Space Res.*, **19**, 1237–1240.

- Hollingsworth, J.L.**, R. M. Haberle, J. R. Barnes, A. F. C. Bridger, J. B. Pollack, H. Lee, and J. Schaeffer, 1996: Orographic control of storm zones on Mars, *Nature*, **380**, 413–416.
- Hollingsworth, J.L.**, and J. R. Barnes, 1996: Forced, stationary planetary waves in Mars' winter atmosphere, *J. Atmos. Sci.*, **53**, 428–448.
- Hollingsworth, J.L.**, 1993: On forced, stationary planetary waves in Mars' winter atmosphere, *Annales Geophysicae*, **11**, C461.
- Barnes, J. R., and **J.L. Hollingsworth**, 1987: Dynamical modeling of a planetary wave mechanism for a Martian polar warming, *Icarus*, **71**, 313–334.
- Haberle, R.M., T.P. Ackerman, O.B. Toon, and **J. Hollingsworth**, 1985: Global transport of atmospheric smoke following a large-scale nuclear exchange. *Geophys. Res. Lett.*, **12**, 405–408.